

**SHEAR WAVE VELOCITY DETERMINATION  
USING MULTI-POLE WAVE**

**ABSTRACT OF THE DISCLOSURE**

A method for determining a formation shear wave velocity for a subterranean formation is provided. The method includes propagating a multi-pole acoustic signal in a borehole using an acoustic transmitter and receiving an acoustic waveform from the multi-pole acoustic signal at at least one receiver. The method further includes processing the acoustic waveform to determine a borehole guided wave velocity and processing the borehole guided wave velocity to determine the shear wave velocity of the subterranean formation. Isolation, suppression or enhancement of any particular harmonics of the acoustic signal is not required.